

Appl. No. : 10/631,921
Filed : July 31, 2003

REMARKS

In the Office Action, the Examiner rejected Claims 1, 2, 4-12, 14-18, 20-26 and 28 under 35 U.S.C. § 103(a) as being unpatentable over the Okumura patent (U.S. Patent No. 4,935,380), in view of the admitted prior art (APA) and the Yoo reference (U.S. Patent No. 5,605,854). By this paper, the Applicant has amended Claim 1 and 20 to highlight the subject matter which the Applicant believes is distinguishable over the art of record. Hence, reconsideration of the above-captioned application in light of the amendments and remarks contained herein is now respectfully requested.

After carefully reviewing Okumura, APA and Yoo, the Applicant notes that none of these references, either by themselves or in combination with each other, disclose the concept of forming a source layer of a first thickness then depositing the refractory metal on the source layer while substantially maintaining the first thickness of the source layer (*See, e.g.*, Claim 1 as amended). Neither the APA nor Yoo even disclose the concept of positioning a silicon rich source layer on the conductive layer. In fact, as discussed in the application as filed, in the APA, the lack of the silicon rich source layer is the cause of the problem of undercutting the refractory material at the interface between the conductive layer and the refractory material.

Okumura does disclose two embodiments where a polysilicon layer is positioned on top of a silicide layer. However, a portion of this polysilicon layer is oxidized into silicon oxide (*See*, Okamura Figure 7E, element 214 and Col. 8, lines 5 – 8 and Okamura Figure 9G element 314, Col. 11, lines 3 – 6). Thus, the thickness of the polysilicon layer is decreased as a result of the oxidation thereof. As such, Okumura will not provide as beneficial of a silicon rich source layer as it is depleted of silicon as a result of the oxidation.

In contrast, to the extent that the Applicant is forming isolation structures on top of the source layer, these isolation structures are grown or otherwise formed in such a manner that the desired thickness of the source layer is substantially maintained thereby maintaining a desired level of sourcing silicon for the interface between the refractory metal and the source level. For these reasons, the Applicant believes that Claim 1 is allowable over the art of record. By this paper, the Applicant has added similar limitations to independent Claim 20 and believes that Claim 20 is therefore allowable over the art of record for the reasons given above.

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SUMMARY

Based upon the foregoing, the Applicant submits that Claims 1 and 20 are allowable over the art of record. The Applicant further submits that the remaining claims define additional patentable subject matter and are further allowable due to their respective dependencies on Claims 1 and 20. Should there be any impediment to the prompt allowance of this application that could be resolved by a telephone conference, the Examiner is respectfully requested to call the undersigned at the number shown below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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